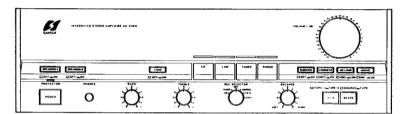


ERVICE MANUAL

AU-X201

INTEGRATED STEREO AMPLIFIER



CAUTION

1. Parts identified by the \(\triangle \) symbol on the schematic diagram and the parts list are critical for safety.

Use only replacement parts that have critical characteristics recommended by the manufacturer.

2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

SPECIFICATIONS_

<AU-X201i> Power output

30 watts per channel into 1 kHz, 8 ohms.

DIN

60 watts per channel into 4 ohms. Load impedance...... 4 to 16 ohms

Total harmonic distortion less than 0.05% at or

below rated min. RMS, both channels driven, from 20

to 20,000 Hz.

Intermodulation distortion

(60 Hz: 7 kHz = 4:1 SMPTE method)

.....less than 0.05% at rated

power output

Frequency response (at 1 watt)

Overall (from CD)...... 1 to 100,000 Hz, +0 dB

-3 dB

RIAA curve deviation (PHONO, 20 Hz to 20 kHz)

..... +0.5 dB, -0.5 dB

Input sensitivity and impedance (at 1 kHz) PHONO (MM)...... 3.5 mV/47 kohms

(Max. input capability: 150 mV at 1 kHz, less that

0.1% total harmonic distortion)

CD, TUNER, LINE...... 200 mV/47 kohms TAPE PLAY-1, 2 200 mV/47 kohms

Output level (at 1 kHz)

TAPE REC-1, 2 200 mV into 47 kohms

Signal to noise ratio (short-circuit, A-network)

PHONO (MM)..... 75 dB CD, TUNER, LINE...... 105 dB

TAPE PLAY-1, 2 105 dB

Controls and Filter

BASS ±8 dB at 50 Hz

TREBLE..... ±8 dB at 10 kHz

SUBSONIC -3 dB at 16 Hz (6 dB/oct)

LOUDNESS +8 dB at 50 Hz

(VOLUME: -30 dB

position) +4 dB at 10 kHz

Power requirements AC 120V/220V/240V, 50/60 Hz

For U.S.A. & Canada .. AC 120V, 60 Hz

Power consumption 200 watts

310 watts Maximum Dimensions 430 mm (16-15/16") W 136 mm (5-3/8") H

311 mm (12-1/4") D Weight. 7.0 kg (15.4 lbs) net

9.0 kg (19.8 lbs) packed

Design and specifications subject to changes without notice for improvements.

Due to local laws and regulations, this unit sold in some areas are not

equipped with variable voltage selecttors

•SPECIFICATIONS_

Output level (at 1 kHz)

<au-x301i></au-x301i>	
Power output	
	hannels driven, from 20 to 20,000 Hz, with
no more than 0.	05% total harmonic distortion.
65 watts per	channel into 8 ohms.
DIN	
100 watts pe	r channel into 4 ohms.
	4 to 16 ohms
Total harmonic	distortion less than 0.05% at or
	below rated min. RMS
	power output
Intermodulation	distortion
	4:1 SMPTE method)
	less than 0.05% at rated
	power output
Frequency response	
Overall (from	CD) 1 to 150,000 Hz, +0 dB
	−3 dB
	ation (PHONO-MM, 20 Hz to 20 kHz)
	+0.5 dB, -0.5 dB
	and impedance (at 1 kHz)
	C) 420 μV/100 or 22 ohms
	4) 3.5 mV/47 kohms
,	ut capability: 150 mV at 1 kHz, less than
	al harmonic distortion)
,	LINE 200 mV/47 kohms
TAPE PLAY-1	, 2 200 mV/47 kohms

TAPE REC-1, 2 200 mV into 47 kohms

Signal to noise ratio (sho	rt-circuit, A-network)
PHONO (MC)	. 65 dB
PHONO (MM)	. 80 dB
CD, TUNER, LINE	. 105 dB
TAPE PLAY-1, 2	. 105 dB
Controls and Filter	
BASS	. ±8 dB at 50 Hz
TREBLE	±8 dB at 10 kHz
SUBSONIC	3 dB at 16 Hz (6 dB/oct)
LOUDNESS	+8 dB at 50 Hz
(VOLUME: −30 d	В
position)	
	+4 dB at 10 kHz
Power requirements	AC 120V/220V/240V,
•	50/60 Hz
For U.S.A. & Canada	AC 120V, 60 Hz
Power consumption	330 watts 410 VA Rated
	460 watts Maximum
Dimensions	430 mm (16-15/16") W
	136 mm (5-3/8") H
	311 mm (12-1/4") D
Weight	9.5 kg (20.9 lbs) net
	11.0 kg (24.3 lbs) packed
	-

- Design and specifications subject to changes without notice for im-
- provements.

 Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selecttors.

NOTE ---

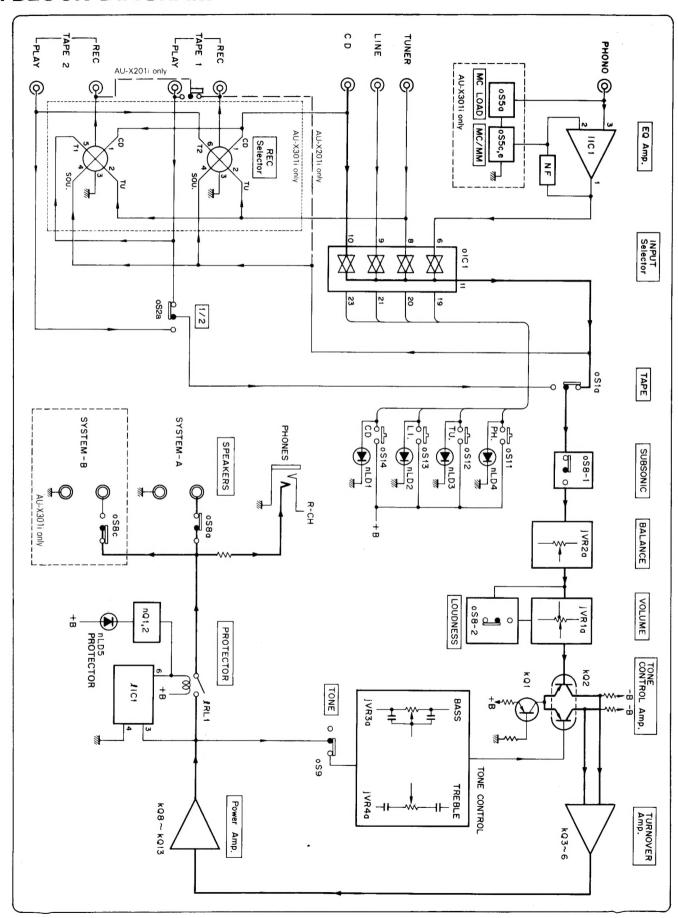
1. The symbols, EU, EG, SEV, SS and XX < EXPORT > on the parts list and the schematic diagram mean followings respectively.

EU	Manufactured for European market.
EG	Manufactured for F.R. Germany market.
SEV	Manufactured for Swiss Market.
SS	Manufactured for Saudi Arabia Market.
XX <export></export>	Standard Version.
NON MARK	Common Parts.

- 2. Some printed circuit boards are not supplied assembled. To separate these in this service manual, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.
- 3. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on March 1987.
- 4. Abbreviations in this service manual are as follows.

C.R.	: Carbon Resistor	E.B.L. : Low Leak Bi-Polar
S.R.	: Solid Resistor	Electrolytic Capacitor
Ce.R.	: Cement Resistor	Ta.C. : Tantalum Capacitor
M.R.	: Metal Film Resistor	F.C. : Film Capacitor
F.R.	: Fusing Resistor	M.P. : Metalized Paper Capacitor
N.I.R.	: Non-Inflammable Resistor	P.C. : Polystyrene Capacitor
A.R.	: Array Resistor	M.M.C.: Metalized Mylar Capacitor
C.C.	: Ceramic Capacitor	A.C. : Array Capacitor
C.T.	: Ceramic Capacitor,	V.R. : Variable Resistor
	Temperature Compensation	S.V.R. : Semi Variable Resistor
E.C.	: Electrolytic Capacitor	€W. : Switch
E.L.	: Low Leak Electrolytic	Chip R.: Chip Resistor
	Capacitor	Chip C : Chip Capacitor
E.B.	: Bi-Polar Electrolytic	
	Capacitor	

1. BLOCK DIAGRAM



2. ELECTRIC PARTS LIST OF BOARD

2-1. F-5716 Tone Control V.R. Board

<Stock No. 01049601 = AU-X201i/01048501 = AU-X301i>

Parts No.	Stock No.	Description
jC1 jC5	48103000 48103000	0.22μF 50V E.B. 0.22μF 50V E.B.
jVR1 jVR2 jVR3 jVR4	83005400 83003200 83003100 83003100	150k Ω (B) V.R., VOLUME 250KMN V.R., BALANCE 50k Ω (C) V.R., BASS 50k Ω (C) V.R., TREBLE
nLD1 nLD2 nLD3 nLD4	48849300 48849300 48849300 48849300	SEL3913K, CD SEL3913K, LINE SEL3913K, TUNER SEL3913K, PHONO
oS1 oS2	48837500 48837500 48837300	Push SW., TAPE Push SW., 1/2 (AU-X301i) Push SW., 1/2 (AU-X201i)
oS8 oS9	83032000	Push SW., YZ (AC XZC III) SUBSONIC•LOUDNESS Push SW., TONE

2-2. F-5718 PROTECTOR Ind. Board

Parts No.	Stock No.	Description	
nLD5	48866300	AY2222S	

2-3. F-5719 PHONES Jack Board

Parts No.	Stock No.	Description	
oJ1	83002600	Jack	

2-4. F-5720 SPEAKERS Switch Board

Parts No.	Stock No.	Description
ΔkR35 Δ	46624700 46249700	220Ω 2W N.I.R. (AU-X301i) 220Ω 1W N.I.R. (AU-X201i)
oS7	83032900 83032800	Push SW., SPEAKERS (AU-X301i) Push SW., SPEAKERS (AU-X201i)

2-5. F-5721 SPEAKERS Terminal Board (AU-X301i)

Parts No.	Stock No.	Description	
oZ4	48569100	8P Terminal, Speaker	

2-6. F-5723 SPEAKERS Terminal Board (AU-X201i)

Parts No.	Stock No.	Description
oZ4	48699700	4P Terminal, Speaker

2-7. F-5717 Power Amp. Board <Stock No. 01049701 = AU-X201i/01048601 = AU-X301i>

Parts No.	Stock No.	Description
	Ottook 140.	Description
Transistor kQ1	07299601	2041115
KQT	or 46392201	2SA1115 2SA1175
kQ2	48577701	2SA1175 2SA1349
kQ3	46728301	2SC2705
	or 48113001	2SC2229
kQ4	46728301	2SC2705
	or 48113001	2SC2229
kQ5	03064001	2SC1904
	or 46128101	2SC2911
kQ6	03007901	2SA899
	or 46128001	2SA1209
∆kQ7	03067401	2SC1845
kQ8	48061801	2SC3244
kQ9	48064001	2SA1284
kQ10	46728901 or 48158701	2SC3298 (AU-X301i)
	07206401	2SC2591 (AU-X301i) 2SD600K (AU-X201i)
kQ11	46728801	2SA1306 (AU-X301i)
KQ I I	or 48158601	2SA1111 (AU-X301i)
	07206301	2SB631K (AU-X201i)
∆ kQ12	48844201	2SC3856 (AU-X301i)
Δ	48844401	2SC3854 (AU-X201i)
∆kQ13	48844101	2SA1492 (AU-X301i)
\triangle	48844301	2SA1490 (AU-X201i)
•Diode	00000100	1114140
kD1	83000100	1N4148
∆kR13	46230200	1kΩ 1/2W N.I.R. (AU-X301i)
Δ	46229800	470Ω 1/2W N.I.R. (AU-X201i)
∆ kR14	46229100	120 Ω 1/2W N.I.R. (AU-X301i)
Δ	46228700	56Ω 1/2W N.I.R. (AU-X201i)
∆ kR15	46230200	1kΩ 1/2W N.I.R. (AU-X301i)
\triangle	46229800	470Ω 1/2W N.I.R. (AU-X201i)
∆kR16	46230200	1kΩ 1/2W N.I.R. (AU-X301i)
A	46229800	470Ω 1/2W N.I.R. (AU-X201i)
∆ kR17	46230200	1kΩ 1/2W N.I.R. (AU-X301i)
∆ ∆ kR18	46229800 46229100	470Ω 1/2W N.I.R. (AU-X201i)
△	46228700	120 Ω 1/2W N.I.R. (AU-X301i) 56 Ω 1/2W N.I.R. (AU-X201i)
∆ kR22	46228200	33Ω 1/2W N.I.R. (A0-λ2011)
∆ kR23	46228200	33Ω 1/2W N.I.R.
 ∆ kR28	46230200	1kΩ 1/2W N.I.R.
∆ kR29	46229100	120Ω 1/2W N.I.R.
∆ kR30	46227400	4.7 Ω 1/2W N.I.R.
∆kR31	46227400	4.7 Ω 1/2W N.I.R.
∆kR32	83013200	0.22 Ω 5W Ce.R.
∆ kR33 ∆	46623100	10Ω 2W N.I.R. (AU-X301i)
Δ\ Δ\kR34	46248100 46247300	10Ω 1W N.I.R. (AU-X201i)
∆	46227000	2.2 Ω 1W N.I.R. (AU-X301i) 2.2 Ω 1/2W N.I.R. (AU-X201i)
∆ kR38	83013200	0.22 Ω 5W Ce.R.
	000,0200	0.2240 000 00.11.
kL1	830201i00	Inductor 0.8µH
kVR1	02000000	110.01/19
KVNI	83006900	1k Ω S.V.R., Bias
 Transistor 		
IQ1	46581701	2SC1845 (AU-X301i)
IQ2	46581601	2SA992 (AU-X301i)
•IC		
ΔIIC1	46207600	TA7017D
	46207600	TA7317P
• Diode		
	83000100	1N4148 (AU-X301i)
ID1	00000100	
ID1 ID2 ID3	83000100 83024700	1N4148 (AU-X301i)

Parts List <F-5717>

Parts No.	Stock No.	Description
ID4 ID5	83024700 83005000	1N4003 1N4002
<u></u>	46229900 46229500	560Ω 1/2W N.I.R. (AU-X301i) 270Ω 1/2W N.I.R. (AU-X201i)
IC5	48104200	220μF 6.3V E.B.
IRL1	46254900	Relay, AP24D2
•Transistor nQ1 nQ2	03067401 03067401	2SC1845 2SC1845
• Diode nD1	83000100	1N4148

< S	tock No. 0105020	1 = AU-X201i/01049101 = AU-X301i >
Parts No.	Stock No.	Description
•Transistor ⚠mQ1 ॒MmQ2	48061801 48064001	2SC3244 (AU-X301i) 2SA1284 (AU-X301i)
• Diode ↑ mD1 ↑ ↑ mD2	83002000 83002100 83020200	KBU6D (AU-X301i) KBU4D (AU-X201i) DF04M
•Zener Diode mDZ1 mDZ2	46114400 or 46114500 or 46114600 or 46828000 or 46828100 or 03170800 46114400 or 46114500 or 46114600 or 46828000 or 46828100 or 03170800	05Z15-X 05Z15-Y 05Z15-Z RD15E-B1 RD15E-B2 RD15F (AU-X201i) 05Z15-X 05Z15-Z RD15E-B1 RD15E-B1 RD15E-B2 RD15F (AU-X201i)
MR12 mC1 mC2 mC11 mC12	46623100 48913300 48913300 48913400 08680400 08680400	10Ω 2W N.I.R. 8200μF 63V E.C. (AU-X301i) 6800μF 42V E.C. (AU-X201i) 8200μF 63V E.C. (AU-X301i) 6800μF 42V E.C. (AU-X201i) 0.01μF 500V C.C. 0.01μF 500V C.C.
∆ pC1 ∆	46425800 or 46943200	0.01μF 400V C.C. 0.01μF 400V C.C.
ΔpF1 Δ Δ Δ	83021900 83021600 83024000 83023600	Fuse 3A for AU-X301i (XX•SS) Fuse 1.5A for AU-X201i (SS) Fuse 3.15A for AU-X301i (EU•EG•SEV) Fuse 1.25A for AU-X201i (EU•EG•SEV)
Δ pF2 Δ Δ	83021900 83021600 83023100	Fuse 3A for AU-X301i (XX+SS) Fuse 1.5A for AU-X201i (SS) Fuse 400mA (SEV)
∆ pS1	48844500	Push SW., POWER

2-9. F-5751 EQ Amp. INPUT Terminal Board <Stock No. 01050401 = AU-X201i/01049301 = AU-X301i>

Parts No.	Stock No.	Description
	Ottook ito.	Dosonption
•IC		
iIC1	46288800	M5220L (AU-X301i)
	46147700	M5218L (AU-X201i)
oIC1	48570700	TC9152P
•Zener Diode	1	
oDZ1	46109000	05Z2.7-X
	or 46109100	05Z2.7-Y
	or 46109200	05Z2.7-Z
	or 46823000	RD2.7E-B1
	or 46823100	RD2.7E-B2
oL1	83030300	170μH Indicator
oS3	07200200	Slide SW., REC SELECTOR
		(AU-X301i)
oS5	83032100	Push SW., MM/MC•MC LOAD (AU-X301i)
oZ1	48528400	2P Terminal, PHONO
oZ3	48528600	6P Terminal, TUNER·LINE·CD

2-10. F-5753 Selector Switch Board

Parts No.	Stock No.	Description
oS11	83003000	Push SW., PHONO
oS12	83003000	Push SW., TUNER
oS13	83003000	Push SW., LINE
oS14	83003000	Push SW., CD

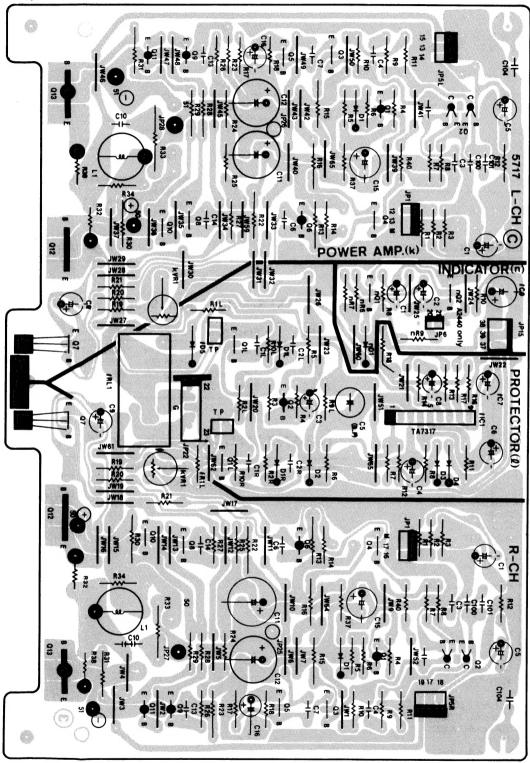
2-11. F-5752 TAPE/DAT Terminal Board

Parts No.	Stock No.	Description
oZ2	48528500	4P Terminal, TAPE/DAT

3. PARTS LOCATION OF CIRCUIT BOARD

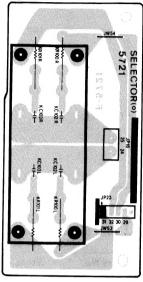
3-1. F-5717 Power Amp. Board

Component Side



3-2. F-5721 SPEAKERS Terminal Board

Component Side (AU-X301i)



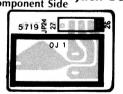
3-3. F-5753 Selector Switch Board

Component Side



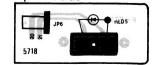
3-4. F-5719 PHONES

Component Side Jack Board



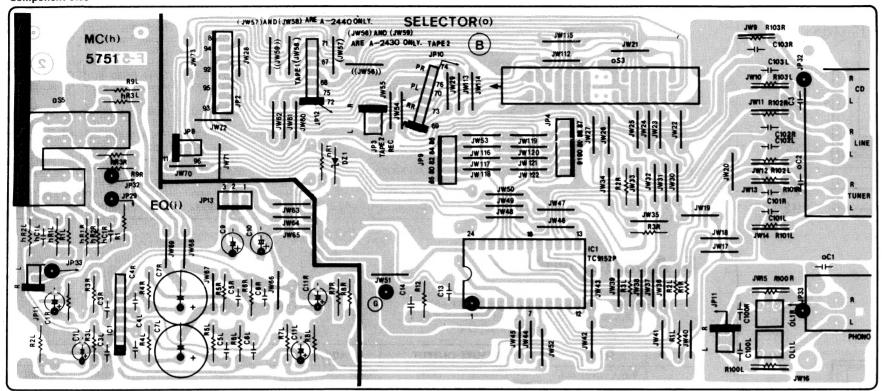
3-5. F-5718 PROTECTOR

Component Side Ind. Board

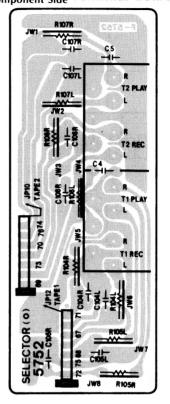


3-6. F-5751 EQ Amp. & INPUT Terminal Board

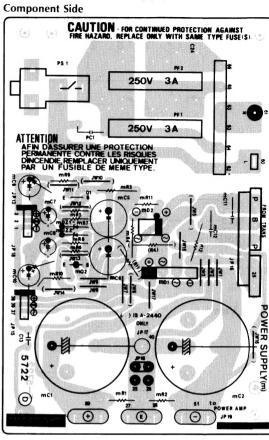
Component Side



3-8. F-5752 TAPE/DAT Component Side Terminal Board

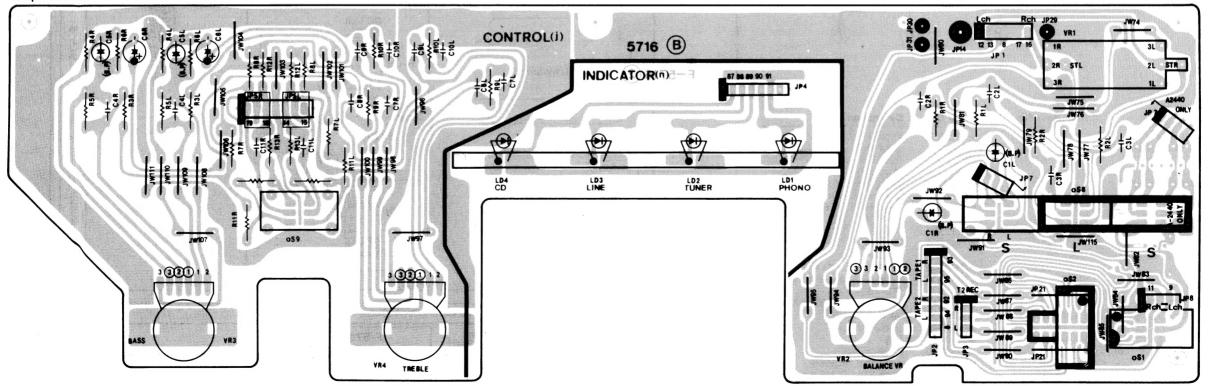


3-9. F-5722 Power Supply Board

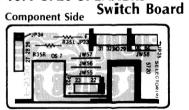


3-7. F-5716 Tone Control Volume Board

Component Side



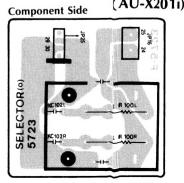
3-10. F-5720 SPEAKERS



3-11. F-5723 SPEAKERS

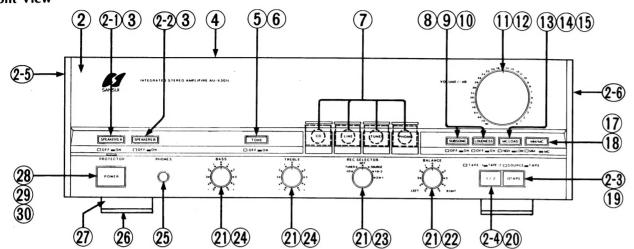
Terminal Board

(AU-X201i)

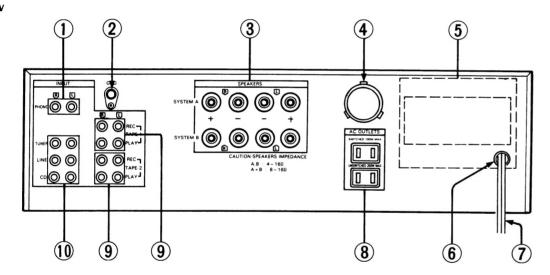


4. OTHER PARTS

• Front View



•Rear View



Parts List < Front View>

Parts No.	Stock No.	Description
2	37503801	Front Panel Ass'y (AU-X301i)
	37503701	Front Panel Ass'v (AU-X201i)
2-1	84583600	Knob, SPEAKERS-A (AU-X301i)
	84583800	Knob, SPEAKERS (AU-X201i)
2-2	84583700	Knob, SPEAKERS-B (AU-X301i)
2-3	84514410	Knob, TAPE
2-4	84526100	Knob, 1/2
2-5	84582600	Left Side Panel
2-6	84582500	Right Side Panel
3	83032900	Push SW., SPEAKERS (AU-X301i)
	83032800	Push SW., SPEAKERS (AU-X201i)
4	84527200	Bonnet
5	84583100	Knob, TONE
6	83002800	Push SW., TONE
7	83003000	Tact SW., PHONO•TUNER•
		LINE•CD
8	84583200	Knob, LOUDNESS
9	84583300	Knob, SUBSONIC
10	83032000	Push SW., LOUDNESS SUBSONIC
11	84582900	Knob, VOLUME
12	83005400	150kΩ V.R., VOLUME

i ui to ito.	Stock No.	Description	
13	84583400	Knob. MC LOAD (AU-X301i)	
14	84526900	Joint Shaft, MC LOAD (AU-X301i)	
15	83032100	Push SW., MC LOAD•MM/MC (AU-X301i)	
.17	84583500	Knob, MM/MC (AU-X301i)	
18	84527000	Joint Shaft, MM/MC (AU-X301i)	
19	48837500	Push SW., TAPE	
20	48837500	Push SW., 1/2 (AU-X301i)	
	48837300	Push SW., 1/2 (AU-X201i)	
21	84583000	Knob, BALANCE REC SELECTOR	
20	0000000	TABLE BASS	
22	83003200	250kΩ V.R., BALANCE	
23	48837000	Rotary Selector with Flexible wire (AU-X301i)	
24	83003100	50kΩ V.R., TREBLE•BASS	
25	83002600	Jack, PHONES	
26	27593800	Rubber for Leg	
27	84586400	Lea	
28	84594300	Knob, POWER	
29	84526800	Joint Shft, POWER	
<u>1</u> 30	48844500	Push SW., POWER	
200	100-14000	TUSTI SVV., TOVVLIT	

Parts List < Rear View>

Parts No.	Stock No.	Description
1	48528400	2P Terminal, PHONO
2	84528300	Ground Terminal
3	48569100	8P Terminal, SPEAKERS (AU-X301i)
	48699700	4P Terminal, SPEAKERS (AU-X201i)
∆ 4	84175200	Plug, Voltage Selector (XX+SS)
⚠	07204700	Slide SW., Voltage Selector (EU•SEV)
∆ 5	83001519	Power Transformer for AU-X301i (XX•SS)
⚠	83001508	Power Transformer for AU-X301i (EG)
⚠	83001515	Power Transformer for AU-X301i (EU•SEV)
⚠	83048509	Power Transformer for AU-X201i (SS)

Parts No.	Stock No.	Description
Λ	83048505	Power Transformer for AU-X201 (EU•SEV)
A	83048508	Power Transformer for AU-X201 (EG)
6	39104900	Strain Relief (XX=AU-X301i only
	48913500	Strain Relief (EU+SS+EG+SEV)
∆ 7	83003500	Power Supply Cord for AU-X301 (XX)
⚠	83034900	Power Supply Cord for AU-X201 (SS)
⚠	83034900	Power Supply Cord for AU-X301 (SS)
⚠	83000600	Power Sypply Cord (EU·SEV·EG)
∆ 8	83004100	AC OUTLET (XX·SS = AU-X301i/ SS = AU-X201i)
9	48528500	4P Terminal, TAPE-1.TAPE-2
10	48528600	6P Terminal, TUNER•LINE•CD

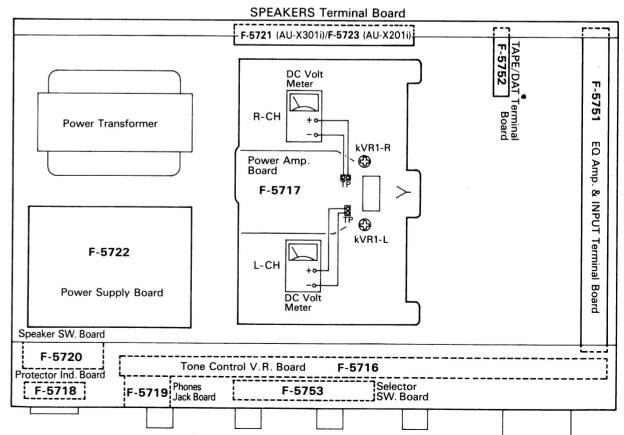
5. ADJUSTMENTS

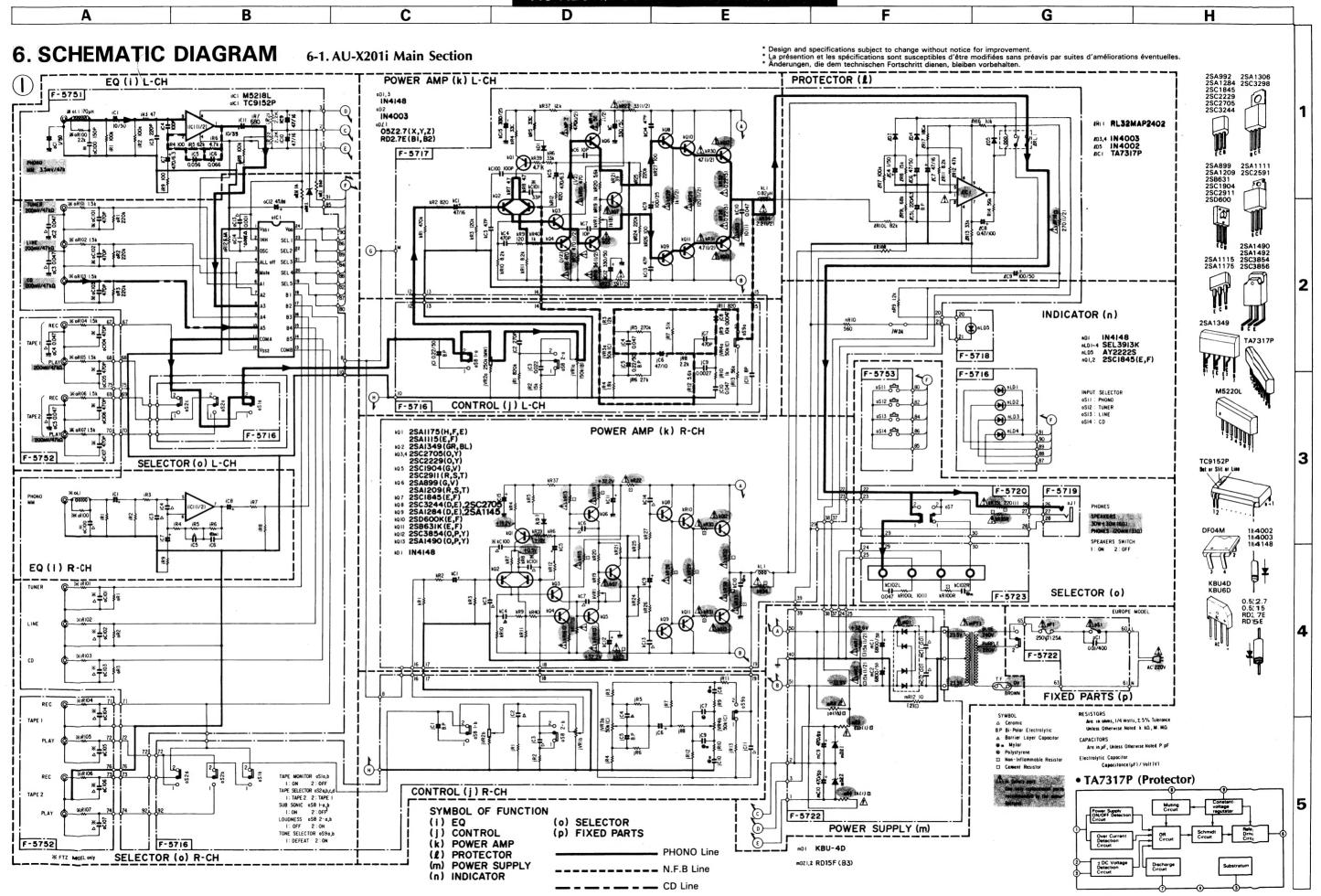
Note: 1) Master Volume Minimum

- 2) Room Temperature 18°C ~ 28°C (65°F ~ 83°F)
- 3) For this adjustment, run the unit for more than 5 minutes after the power is switched ON.
- 4) Before turning ON power switch, set the kVR1 on F-5717 to center position.

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1.	Bias Current Adj. <l-ch></l-ch>	Test Terminal (TP, L-ch), DC Volt Meter	kVR1 <l-ch></l-ch>	DC 5±2mV	•This bias value is converted from current value to voltage
2.	Bias Current Adj. <r-ch></r-ch>	Test Terminal (TP, R-ch), DC Volt Meter	kVR1 <r-ch></r-ch>	DC 5±2mV	by ohms law.

Fig. 5-1 Printed Circuit Location and adjustment points.





SPEAKERS SELECTOR

F-5722

mD2 DFO4M

mDZ1,2 O5ZI5(X,Y,Z) RDI5E(BI,B2)

POWER SUPPLY (m)

mq: 2SC3244(C,D,E)2SC2235

m02 2SA1284 (C,D,E) 2SA965

Are in µF, Unless Otherwise Noted. P. pF

Electrolytic Capacitor
Capacitance (µF) / Volt (V

5

Muting

osba,b,c,d System a osba,b 1. On 2. Off System b osbc,d 1. On 2. Off

---- N.F.B Line

__ _ CD Line

PHONO Line

(o) SELECTOR

(p) FIXED PARTS

SYMBOL OF FUNCTION

(i) EQ

(j) CONTROL

(k) POWER AMP

(1) PROTECTOR

(n) INDICATOR

(m) POWER SUPPLY

TAPE MONITOR oSla,b
i. ON 2 OFF
TAPE SELECTOR oS2a,b
i. TAPE 2 2 TAPE I
SUBSONIC oS8a,b
i. ON 2 OFF

F-5716

SELECTOR (o) R-CH

LOUDNESS oS8c,d 1. OFF 2 ON TONE SELECTOR oS9a,b 1. DEFEAT 2. ON

XoRIO7

F-5752 *FT! MODEL only

1

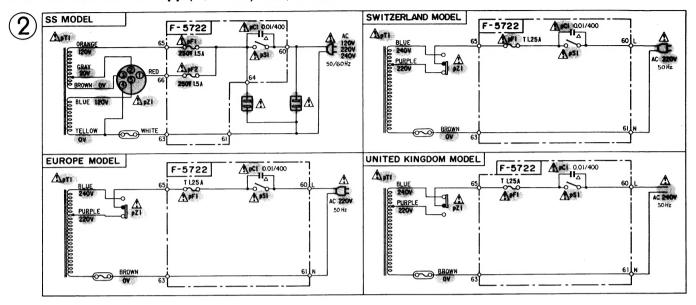
2

3

4

C $\overline{\mathbf{D}}$

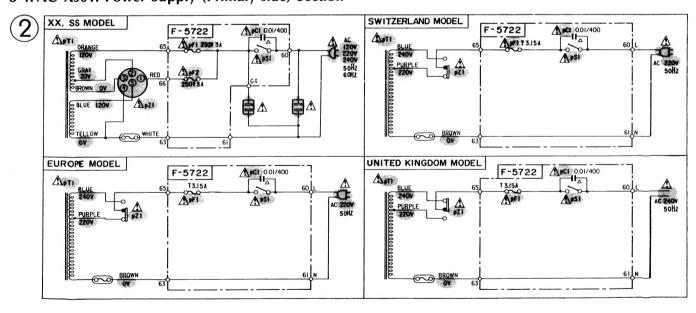
6-3. AU-X201i Power Supply (Primaly-side) Section





- Design and specifications subject to change without notice for improvement.
 La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
 Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

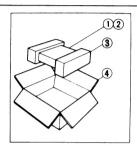
6-4. AU-X301i Power Supply (Primaly-side) Section



5

7. PACKING LIST

Parts No.	Stock No.	Description
1	47428000	Polythylene Sheet
2	47859600	Vinyl Bag
3	84527300	Styrofoam Packing
4	84589200	Carton Case (AU-X201i)
	84589100	Carton Case (AU-X301i)



8. ACCESSORY LIST

 Stock No.	Description
84454300	Operating Instruction (*E•F•S) <au-x301i x201i=""></au-x301i>
84454400	Operating Instruction (*G·I·Sw) <au-x301i x201i=""></au-x301i>

*Note:

E•F•S: English•French and Spanish Version G•I•Sw: German•Italian and Swedish Version



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